



(11) **EP 0 605 348 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
 20.03.1996 Bulletin 1996/12

(51) Int Cl.⁶: G10L 3/00, G10L 3/02

(43) Date of publication A2:
 06.07.1994 Bulletin 1994/27

(21) Application number: 93480214.1

(22) Date of filing: 03.12.1993

(84) Designated Contracting States:
 DE FR GB

(72) Inventor: McKiel Jr., Frank A.
 Trophy Club, Texas 76262 (US)

(30) Priority: 30.12.1992 US 999509

(74) Representative: de Pena, Alain
 Compagnie IBM France
 Département de Propriété Intellectuelle
 F-06610 La Gaude (FR)

(71) Applicant: International Business Machines Corporation
 Armonk, N.Y. 10504 (US)

(54) **Method and system for speech data compression and regeneration**

(57) A method and system for creating a compressed data representation of a human speech utterance which may be utilized to accurately regenerate the human speech utterance. First, the location and occurrence of each period of silence, voiced sound and unvoiced sound within the speech utterance is detected. Next, a single representative data frame which may be repetitively utilized to approximate each voiced sound is iteratively determined, along with the duration of each voiced sound. The spectral content of each unvoiced sound, along with variations in the amplitude thereof is also determined. A compressed data presentation is then created which includes encoded representations of a duration of each period of silence, a duration and single representative data frame for each voiced sound and a spectral content and amplitude variations for each unvoiced sound. The compressed data representation may then be utilized to regenerate the speech utterance without substantial loss in intelligibility.

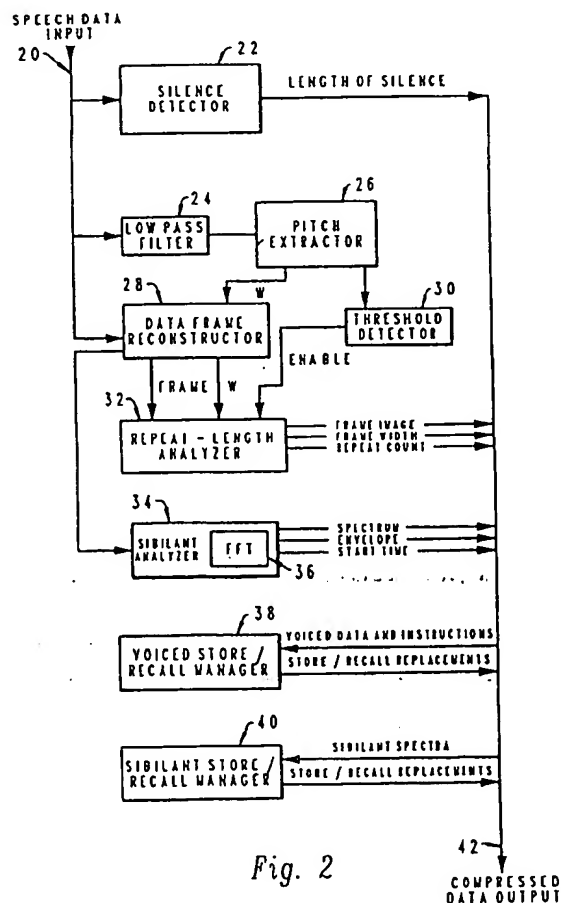


Fig. 2

EP 0 605 348 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 93 48 0214

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
Y	WO-A-88 00754 (NCR CO) 28 January 1988 * abstract; claims 1,3,6-8; figures 3,9,10,13 *	1-14	G10L3/00 G10L3/02
Y	WO-A-91 14162 (ICHIKAWA KOZO) 19 September 1991 * abstract; claim 1 *	1-14	
A	US-A-5 140 639 (SPRAGUE RICHARD P ET AL) 18 August 1992 * column 1, line 31 - line 40 *	1	
A	EP-A-0 260 053 (AMERICAN TELEPHONE & TELEGRAPH) 16 March 1988 * abstract *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			G10L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26 January 1996	Examiner Van Doremalen, J
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 130 (11.91) (P/4/01)

BEST AVAILABLE COPY